

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

Claim 1 (Currently Amended): A user context classifier for a customer self service system that performs resource search and selection, said system including a context attribute database comprising types of user contexts and one or more context attributes associated with each user context for processing by said system, and context attribute function database comprising functions for computing values for each context attribute, said classifier comprising a processing mechanism for receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user, and processing said query and context vector against data included in said context attribute database and context attribute function database for predicting a particular user context, wherein said classifier implements a supervised learning algorithm that receives historical user interaction data including data relating to past user queries entered into the system and associated user contexts for users, and learns how user context attribute values map to user context attribute functions to improve said context attribute functions, said classifier utilizing improved context attribute functions to predict user contexts and populates said user context vector with context parameters specifying a user interaction state for use in a subsequent resource search.

Claim 2 (Previously Presented): The user context classifier for a customer self service system as claimed in Claim 1, wherein said processing mechanism includes mechanism for applying

said functions to context for specifying said user interaction state including context that is a function of the user, said mechanism further annotating the user context vector with a set of context parameters for use in subsequent processing.

Claim 3 (Canceled).

Claim 4 (Currently Amended): The user context classifier for a customer self service system as claimed in Claim 1, further including mechanism for updating the context attribute value functions database with said improved more enhanced functions.

Claim 5 (Currently Amended): The user context classifier for a customer self service system as claimed in Claim 4, wherein said system further includes a user interaction database comprising said data relating to past user queries entered into the system and associated user contexts for particular users, ~~said mechanism for updating the attribute value functions database comprising mechanism for analyzing historical user interaction data from the user interaction database and learning how user context attribute values map to user context attribute functions, wherein said data from the user records interaction database serves as a training set for said supervised learning algorithm to enable continuous improvement of said functions in said context attribute function database.~~

Claim 6 (Previously Presented): The user context classifier for a customer self service system as claimed in Claim 5, wherein said user interaction data includes data relating to previous

system interactions, said data including user validated user contexts that were applicable during said prior system interactions, and the users responses relating to those interactions.

Claim 7 (Original): The user context classifier for a customer self service system as claimed in Claim 6, wherein said previous system interaction data further includes prior transactions of a current user and prior transactions of other similar users, wherein common behaviors and acceptance criteria are determined for said updating said functions.

Claim 8 (Original): The user context classifier for a customer self service system as claimed in Claim 7, wherein similar users comprise those users with shared organization, community or environmental characteristics.

Claim 9 (Original): The user context classifier for a customer self service system as claimed in Claim 5, wherein said updating mechanism provides additions and modifications to a set of context attribute functions resulting in increasing ability to predict derived contexts as functions of the raw contexts.

Claim 10 (Currently Amended): A method for classifying user contexts for a customer self service system that performs resource search and selection, said method comprising the steps of:

a) receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user;

b) processing said query and context vector against data included in a context attribute database comprising types of user contexts and one or more context attributes associated with each user context for processing by said system; and

c) processing said query and context vector against data included in a context attribute function database comprising functions for computing values for each context attribute, wherein said processing steps b) and c) includes implementing a supervised learning algorithm for receiving historical user interaction data including data relating to past user queries entered into the system and associated user contexts for users, and learning how user context attribute values map to user context attribute functions for improving said context attribute functions, said classifier utilizing improved context attribute functions for predicting a particular user context and populating said user context vector with context parameters specifying a user interaction state for use in a subsequent resource search.

Claim 11 (Previously Presented): The method as claimed in Claim 10, wherein said processing step c) further includes the step of applying said functions to context for specifying said user interaction state including context that is a function of the user, said populating step including annotating the user context vector with a set of context parameters for use in subsequent processing.

Claim 12 (Canceled).

Claim 13 (Currently Amended): The method as claimed in Claim 10, further including the step of updating the context attribute value functions database with said improved more enhanced functions.

Claim 14 (Currently Amended): The method as claimed in Claim 13, wherein said updating step includes the steps of:

analyzing historical user interaction data from a user interaction database comprising data relating to past user queries entered into the system and associated user contexts for particular users; and,

mapping user context attribute values to user context attribute functions, said data from said user interaction records database serving serves as a training set for said supervised learning algorithm to enable continuous improvement of said functions in said context attribute function database.

Claim 15 (Previously Presented): The method as claimed in Claim 14, wherein said user interaction data further includes data relating to previous system interactions, said data including user validated user contexts that were applicable during said prior system interactions, and the users responses relating to those interactions.

Claim 16 (Original): The method as claimed in Claim 15, wherein said previous system interactions includes prior transactions of a current user and prior transactions of other similar

users, said functions updating step including the step of determining common behaviors and acceptance criteria from said previous system interactions.

Claim 17 (Original): The method as claimed in Claim 16, wherein said similar users comprise those users with shared organization, community or environmental characteristics.

Claim 18 (Original): The method as claimed in Claim 16, wherein said updating step includes the steps of providing additions and modifications to a set of context attribute functions resulting in increasing ability to predict derived contexts as functions of raw contexts.

Claim 19 (Currently Amended): A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for classifying user contexts for a customer self service system that performs resource search and selection, said method comprising the steps of:

- a) receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user;
- b) processing said query and context vector against data included in a context attribute database comprising types of user contexts and one or more context attributes associated with each user context for processing by said system; and
- c) processing said query and context vector against data included in a context attribute function database comprising functions for computing values for each context attribute, wherein said processing steps b) and c) includes implementing a supervised learning

algorithm for receiving historical user interaction data including data relating to past user queries entered into the system and associated user contexts for users, and learning how user context attribute values map to user context attribute functions for improving said context attribute functions, said classifier utilizing improved context attribute functions for predicting a particular user context and populating said user context vector with context parameters specifying a user interaction state for use in a subsequent resource search.

Claim 20 (Previously Presented): The program storage device readable by machine as claimed in Claim 19, wherein said processing step c) further includes the step of applying said functions to context for specifying said user interaction state including context that is a function of the user, said populating step including annotating the user context vector with a set of context parameters for use in subsequent processing.

Claim 21 (Canceled).

Claim 22 (Currently Amended): The program storage device readable by machine as claimed in Claim 19, further including the step of updating the context attribute value functions database with said improved more enhanced functions.

Claim 23 (Currently Amended): The program storage device readable by machine as claimed in Claim 22, wherein said updating step includes the steps of:

~~analyzing historical user interaction data from a user interaction database comprising data relating to past user queries entered into the system and associated user contexts for particular users; and,~~

~~mapping user context attribute values to user context attribute functions, said data from said user interaction records database serving as a training set for said supervised learning algorithm to enable continuous improvement of said functions in said context attribute function database.~~

Claim 24 (Previously Presented): The program storage device readable by machine as claimed in Claim 23, wherein said user interaction data further includes data relating to previous system interactions, said data including user validated user contexts that were applicable during said prior system interactions, and the users responses relating to those interactions.

Claim 25 (Previously Presented): The user context classifier for a customer self service system as claimed in Claim 1, wherein said processing mechanism for receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user further includes user context including criteria beyond content.

Claim 26 (Previously Presented): The user context classifier for a customer self service system as claimed in 1, wherein said classifier further populates said user context vector with context parameters beyond content, for use in a subsequent resource search.

Claim 27 (Previously Presented): The method as claimed in Claim 10, wherein said step a) of receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user further includes user context including criteria beyond content.

Claim 28 (Previously Presented): The method as claimed in Claim 10, wherein said step c) of populating said user context vector with context parameters includes populating said user context vector with context parameters specifying a user interaction state, including parameters beyond content, for use in a subsequent resource search.

Claim 29 (Previously Presented): The program storage device readable by machine as claimed in Claim 19, wherein said step a) of receiving a user query and a context vector comprising data associating an interaction state with said user and including context that is a function of the user further includes user context including criteria beyond content.

Claim 30 (Previously Presented): The program storage device readable by machine as claimed in Claim 19, wherein said step c) of populating said user context vector with context parameters includes populating said user context vector with context parameters specifying a

user interaction state, including parameters beyond content, for use in a subsequent resource search.